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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/897,495 | 07/03/2001 | Rauf Izmailov | A7870 | 2079 |

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10/04/2005

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EXAMINER

TSEGAYE, SABA

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/897,495 | IZMAILOV ET AL. | |
| | Examiner | Art Unit | |
| | Saba Tsegaye | 2662 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-4,9 and 11-16 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16, line 3, the phrase "said domain" lacks antecedent basis.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suominen (US 2003/0002510) in view of Meempat et al. (US 6,778,496).

Suominen discloses a method of generating an optimal path in a domain (1), comprising:
estimating a traffic volume of the domain (0017);
constructing a traffic matrix in accordance with the estimated traffic volume (0017);
computing a provisioning route for each non-zero element of the traffic matrix, and the provisioning route is open to alteration (0017-0039); and
readjusting the traffic matrix in response to the computed provisioning route (0017).

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Suominen does not disclose wherein the method is performed for at least one class in descending order of priority.

Meempat teaches selecting a path through a network based on combination criteria of having smaller bottleneck link utilization and having fewer links compared to other paths. Each path is comprised of links that are adapted to discriminate between different classes of packet streams.

It would have been obvious to one ordinary skill in the art to modify Suominen's method to perform for at least one class in descending order of priority, as taught by Meempat. The motivation is more integrated and efficient system that provides quality of service guarantees to packet streams entering the network and serves customer demand with high priority before servicing customer demand with low priority.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meempat et al. in view of Conway et al. (US 6,061,331).

Regarding claims 1 and 4, Meempat discloses a method and apparatus to control call admission to a packet-based network and achieve load balancing over a packet-based network and optimum path between two gateways is determined. Each path is comprised of links that are adapted to discriminate between different classes of packet streams. However, Meempat does not expressly disclose constructing a traffic matrix in accordance with an estimated traffic volume.

Conway teaches method and apparatus for estimating source-destination traffic matrix in a packet-switched communication network (column 3, lines 12-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meempat's apparatus to utilize a system where traffic matrix constructed in accordance with the estimated traffic volume, as taught by Conway. The motivation is more integrated an efficient system that provides knowledge of source-destination traffic demands, thereby increasing route optimization while maintaining required performance level.

Regarding claim 2, Meempat discloses the method wherein the domain comprises one of an IP backbone network having a plurality of core nodes connected via logical links to gateway (12) nodes of neighboring domains and at least one bypass node connected to at least one of the core nodes (see fig. 1).

Regarding claim 3, Meempat teaches that a cost metric in each path status message is updated at the intermediate nodes as the message progresses along its defined path. Based on the final cost metric values collected upon receipt of the status messages at the respective path edges subsequent packet stream arrivals are selectively blocked or admitted to the network.

6. Claims 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meempat et al. (6,778,496) in view of Siue et al. (6,744,769).

Claims 11, 14 and 15, Meempat discloses, in fig. 1, a plurality of links (16, 18) that couple receiving and transmitting edge nodes (12, 14) to one another, each of the links having a maximum capacity (column 4, line 46-column 5, line 35), wherein an optimal path is calculated for a current suboptimal path by resetting a previously calculated path if a cost of the resetting

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step for the previously calculated path is less than a cost of suboptimality for the current suboptimal path (a cost metric in each path status message is updated at the intermediate nodes as the message progress along its defined path. Based on the final cost metric values collected upon receipt of the status messages at the respective path edges). Further, Meempat discloses that each of the plurality of routers is adapted to select an optimum path through the network in response to receipt of a packet stream admission request. However, Meempat does not disclose a plurality of edge nodes that one of receive and transmit a prescribed amount of traffic in accordance with an SLA.

Siue teaches an apparatus that can provision optimal communications path in accordance with an SLA (column 12, lines 17-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meempat's edge nodes to receive and transmit a prescribed amount of traffic in accordance with the SLA, as taught by Siue. The motivation is more integrated and efficient system that offers a customer a guarantee as to the quality of the service and security.

Regarding claim 12, Meempat discloses the network wherein the network comprises a Diffserv network and the capacity comprises bandwidth (column 5, lines 7-11).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meempat in view of Conway as applied to claim 1 above, and further in view of Beshai et al. (US 6,339,488).

Meempat in view of Conway discloses all the claim limitations as stated above except for optical network and capacity comprises optical wavelength. Beshai teaches a fully meshed

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telecommunications network in which an optical dual ring is used as the core transport network and carries wavelength multiplexed optical signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Meempat in view of Conway, by replacing the network with the optical network, as taught by Beshai. Such modification would have been to enable Meempat in view of Conway's method of routing to be utilized in the well-known optical network which is a change in field of use and involves only routine skill in the art.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meempat et al. (6,778,496) in view of Siue et al. as applied to claim 11 above, and further in view of Beshai et al. (US 6,339,488).

Meempat in view of Siue et al. discloses all the claim limitations as stated above except for optical network and capacity comprises optical wavelength. Beshai teaches a fully meshed telecommunications network in which an optical dual ring is used as the core transport network and carries wavelength multiplexed optical signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Meempat in view of Siue, by replacing the network with the optical network, as taught by Beshai. Such modification would have been to enable Meempat in view of Siue's method of routing to be utilized in the well-known optical network which is a change in field of use and involves only routine skill in the art.

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9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meempat et al. (6,778,496) in view of Siue et al. as applied to claim 11 above, and further in view of Conway et al. (US 6,6061,331).

Meempat in view of Siue discloses all the claim limitations as stated above, except for constructing a traffic matrix in accordance with an estimated traffic volume.

Conway teaches method and apparatus for estimating source-destination traffic matrix in a packet-switched communication network (column 3, lines 12-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Meempat in view of Siu's apparatus to utilize a system where traffic matrix constructed in accordance with the estimated traffic volume, as taught by Conway. The motivation is more integrated and efficient system that provides knowledge of source-destination traffic demands, thereby increasing route optimization while maintaining required performance level.

Allowable Subject Matter

10. Claims 5-8 and 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 10 is allowed.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mo et al. (US 2001/0053149) discloses a method and system for quality of service support in a packet-switched network.

Bawa et al. (US 6,697,333) discloses a bandwidth load consideration in network route selection.


Lee (6,556,544) discloses a method and system for provisioning network resources for dynamic multicast groups.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

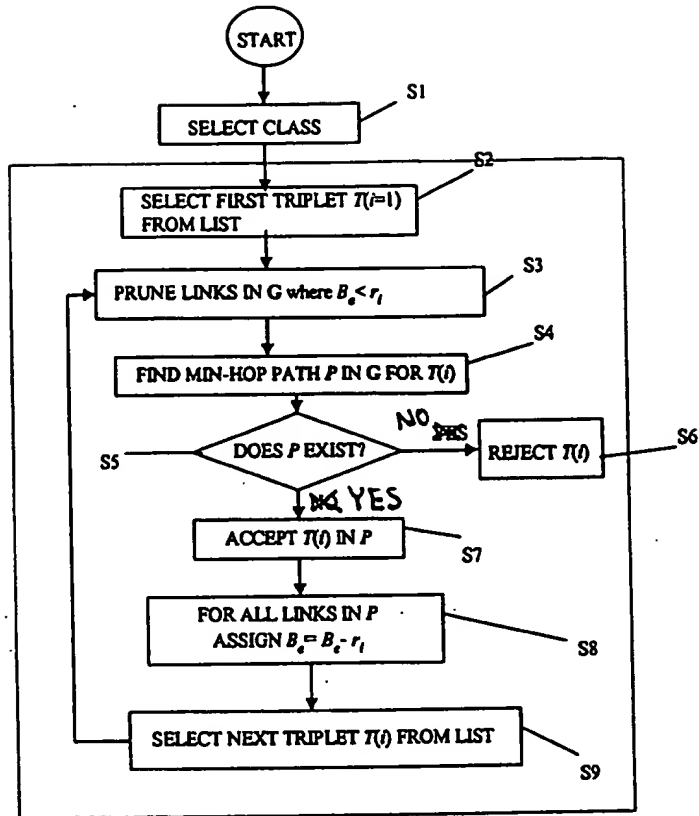
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
September 30 2005


JOHN PEZZLO
PRIMARY EXAMINER

Approved
ST
9/30/05



PRIOR ART

Figure 2

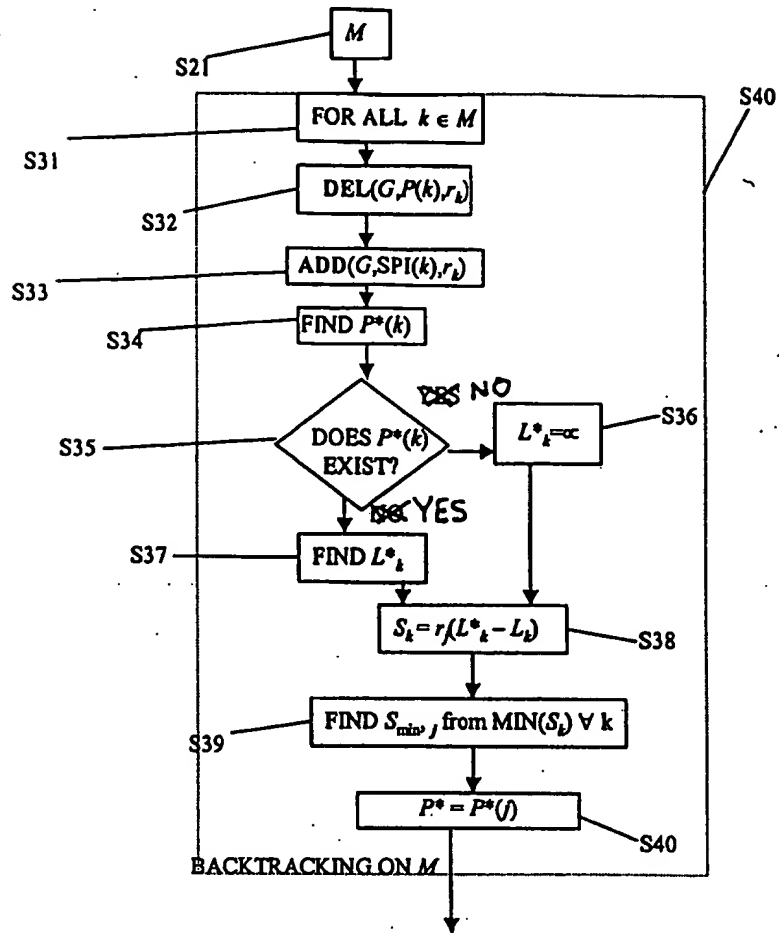


Figure 6